Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012:

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

		•					
MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)			
2017	HJDXL04.5311	4.5	Diesel	8000			
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION				
Injectio Recirc	r Cooler, Oxidation Cata n, Electronic Control Mo- culation, Turbocharger, S ction-Urea, Ammonia O	dule, Exhaust Gas elective Catalytic	Pump, Compressor, Generator Set, Other Industrial Equipment				

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)				OPACITY (%)			
			ИМНС	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
75 ≤ kW ≤ 560	Tier 4 Final	OPTIONAL STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.001	0.11		0.02	0.02			

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte. California on this

day of December 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

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## **Engine Model Summary Form**

Manufacturer: Engine category:

John Deere Power Systems

EPA Engine Family:

Nonroad Cl

Mfr Family Name: Process Code:

HJDXL04.5311 350HCE New Submission

4. Fuel Rate:

5 Fuel Rate

6. Torque (Nm) 7. Fuel Rate:

8. Fuel Rate:

9. Emission Contro Device Per

3. kW@RPM mm/stroke@neak kW (kg/hr)@peak kW @RPM mm/stroke@peak (for diesels only) 1. Engine code 2. Engine Mo (for diesel only) (SEA Gross) torque (kW/hr)@peak torque SAE J1930 /40/45H5G08A 2012 40/45 12:60/1800 12:50/1800 27:20/1800 27:20/1800 EGRIOC SCRC NH3OC DELTC CAC ECM. #10 150.7@1500 23@1500 EGR OC SCRC NH3OC DELTC CAC FCM